ex libris

GREGG M. SINCLAIR
LIBRARY

Digitized by the Internet Archive
in 2026

https://archive.org/details/experimental-cell-research_1959_18_contents

EXPERIMENTAL CELL RESEARCH

Published under the auspices of

THE INTERNATIONAL SOCIETY FOR CELL BIOLOGY

EDITORS:

H. BAUER · T. CASPERSSON · A. ENGSTRÖM · E. FAURÉ-FREMIET

H. B. FELL · D. MAZIA · G. MONTALENTI · J. T. RANDALL J. RUNNSTRÖM

F. O. SCHMITT · E. C. SLATER · P. WEISS · R. W. G. WYCKOFF

VOLUME 18 · 1959

ACADEMIC PRESS, New York and London

COPYRIGHT, © 1959, BY ACADEMIC PRESS INC.

All Rights Reserved

No part of this book may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Sweden

Almqvist & Wiksells

BOKTRYCKERI AB

UPPSALA 1959

61-05078

QH581
E95

TABLE OF CONTENTS

NUMBER 1, AUGUST 1959

WEIMAR, V., Activation of corneal stromal cells to take up the vital dye neutral red 1
CHASE, W. H., The surface membrane of pulmonary alveolar walls 15
BACHTOLD, J. G., DEIG, F. E. and GEBHARDT, L. P., Phosphatase activity in normal and poliovirus infected tissue cultures 29
PFEIFFER, H. H., Topochemische Versuche an interchromomeren des Chromosoms 2R der Speicheldrüsenkerne von *Drosophila*-Larven. 45
EVANS, H. J. and SAVAGE, J. R. K., The effect of temperature on mitosis and on the action of colchicine in root meristem cells of *Vicia faba*. 51
RINALDI, R. A., The effect of ultraviolet radiation on the hydration of *Amoeba proteus* as determined by contractile vacuolar function. 62
RINALDI, R. A., The induction of pinocytosis in *Amoeba proteus* by ultraviolet radiation 70
MUNRO, T. R., Alpha irradiation of parts of single cells in tissue culture. III. Irradiation of chick fibroblasts during metaphase and anaphase. . . . 76
FISHER, W. D., ANDERSON, N. G. and WILBUR, K. M., Studies on nuclei. I. Physical properties of deoxyribonucleoprotein from rat thymus in 1 *M* sodium chloride 100
HULTIN, T., Reactions of 2-aminofluorene and related aromatic amines with liver proteins *in vitro* 112
WHITFIELD, J. F. and RIXON, R. H., Effects of X-radiation on multiplication and nucleic acid synthesis in cultures of L-strain mouse cells. 126
CHARLES, A., Electron microscope observations on hardening in the hair follicle 138
SCHERBAUM, O. H., LOUDERBACK, A. L. and JAHN, T. L., DNA synthesis, phosphate content and growth in mass and volume in synchronously dividing cells 150

BRIEF NOTES

BOURGEOIS, S., WIAME, J. M. and LELOUCHIER-DAGNELIE, H., "Triauxie" of *Proteus morganii* in amino acids supplemented medium and its enzymatic interpretation 167
KELLNER, G., BRODA, E., SUSCHNY, O. and RÜCKER, W., Effects of trypsin treatment on tissue in culture 168
BRODA, E., SUSCHNY, O., RÜCKER, W. and KELLNER, G., Effects of hydrogen ion concentration on tissue in culture 171
VESTERMARK, A. and BOSTRÖM, H., Studies on ester sulfates. V. On the enzymatic formation of ester sulfates of primary aliphatic alcohols. . . 174
HOPKINS, T. F. and WHIDDEN, L. M., The demonstration of a sexual dimorphism in liver cells of the rodent *Chinchilla laniger* 178
BARER, R., JOSEPH, S. and MEEK, G. A., The orgin of the nuclear membrane 179

Bopp-Hassenkamp, G., "Cytomixis" im elektronenmikroskopischen Bild. . 182
De Deken-Grenson, M., The mass induction of white strains in *Euglena* as influenced by the physiological conditions 185
Rendi, R., The effect of chloramphenicol on the incorporation of labeled amino acids into proteins by isolated subcellular fractions from rat liver 187
Sirlin, J. L. and Edwards, R. G., Timing of DNA synthesis in ovarian oocyte nuclei and pronuclei of the mouse. 190
Press, N., An electron microscope study of a mechanism for the delivery of follicular cytoplasm to an avian egg 194

NUMBER 2, October 1959

Boss, J. M., The contribution of the chromosomes to the telophase nucleus in cultures of fibroblasts of the adult crested newt *Triturus cristatus carnifex* 197
Bomstein, R. A. and Steberl, E. A., Preservation of washed bovine spermatozoa in a synthetic medium at room temperature. 217
Sachs, R. M., Bretz, C. and Lang, A., Cell division and gibberellic acid. . 230
Hultin, E , The influence of antibodies upon the fertilization rate 245
Child, F. M., The characterization of the cilia of *Tetrahymena pyriformis* 258
Sirlin, J. L. and Elsdale, T. R., Rates of labelling of RNA and proteins in cell components of the amphibian myoblast 268
Ohno, S., Kaplan, W. D. and Kinosita, R., On the end-to-end association of the X and Y chromosomes of *Mus musculus*. 282
Carneiro, J. and Leblond, C. P., Role of osteoblasts and odontoblasts in secreting the collagen of bone and dentin, as shown by radioautography in mice given tritium-labelled glycine. 291
Abd-el Wahab, A. and Sirlin, J. L., Nuclear RNA and hormone production in the ring gland of *Drosophila*. 301
Gillette, R. W. and Conway, H., Tissue culture studies of keloids. . . . 313
Butros, J. M., Stimulation of cleavage in *Arbacia* eggs with desoxyribonucleic acid fractions 318
Scarano, E. and Maggio, R., The enzymatic deamination of 5′-deoxycytidylic acid and of 5-methyl-5′-deoxycytidylic acid in the developing sea urchin embryo 333
Bäckström, S., Activity of glucose-6-phosphate dehydrogenase in sea urchin embryos of different developmental trends 347
Bäckström, S., Reduction of blue tetrazolium in developing sea urchin eggs after addition of various substrates and phosphopyridine nucleotides 357

BRIEF NOTES

D'Amelio, V. and Salvo, A. M., On the nuclear hemoglobin of chicken red cells 364
Beams, H. W., Tahmisian, T. N., Devine, R. and Anderson, E., The fine structure of the nuclear envelope of *Endamoeba blattae*. 366
Bayreuther, K. and Thorell, B., The chromosome constitution in the virus-induced chicken erythroleukemia 370

STEWART, P. A. and STEWART, B. T., Protoplasmic streaming and the fine structure of slime mold plasmodia 374
STUART, D. C., JR. and FOGH, J., Electron microscopic demonstration of intracellular poliovirus crystals 378
OHNO, S., KAPLAN, W. D. and KINOSITA, R., Do XY- and O-sperm occur in *Mus musculus?* 382
GRUNBAUM, B. W., MAX MØLLER, K. and THOMAS, R. S., Cytoplasmic crystals of the amoebae: *Amoeba proteus* and *Chaos chaos*. 385
MARUYAMA, Y. and LARK, K. G., Periodic synthesis of RNA in synchronized cultures of *Alcaligenes fecalis*. 389
MCNAIR SCOTT, D. B. and CHU, E., Periodicity in the synthesis of RNA in synchronized cultures of *Escherichia coli* in the presence and absence of 4-mercapto pyrimidine 392
ADIBI, S., PASCHKIS, K. E. and CANTAROW, A., Stimulation of liver mitosis by blood serum from hepatectomized rats. 396
BERRY, R. E. and MAYER, D. T., The isolation of some cellular constituents of bovine spermatozoa. 398
FUDGE, M. W., Vegetalization of sea urchin embryos by treatment with tyrosine 401
HAUMONT, S. and VINCENT, J., Action du versénate de calcium sur le plomb fixé *in vivo* dans l'os compact 404
RODKIEWICZ, B., The nucleolus structure in some plant cells. 407
CLAYTON, R. M. and ROMANOVSKY, A., Passage of antigenic material between inductor and ectoderm 410
BREITMAN, T. R. and WEBSTER, G. C., Assimilation of nucleic acid precursors by isolated thymus nuclei 413
OHNO, S., KAPLAN, W. D. and KINOSITA, R., Formation of the sex chromatin by a single X-chromosome in liver cells of *Rattus norvegicus*. 415
BRIEGER, E. M., GLAUERT, A. M. and ALLEN, J. M., Cytoplasmic structure in *Mycobacterium leprae* 418
HOLTER, H. and HOLTZER, H., Pinocytotic uptake of fluorescein-labelled proteins by various tissue cells 421

NUMBER 3, NOVEMBER 1959

GEZELIUS, K., The ultrastructure of cells and cellulose membranes in Acrasiae 425
WILSON, B. W., BUETOW, D. E., JAHN, T. L. and LEVEDAHL, B. H., A differential effect of pH on cell growth and respiration. 454
MACDONALD GREEN, D., A host-specific variation affecting relative frequency of transformation of two markers in pneumococcus 466
FISHER, W. D., ANDERSON, N. G. and WILBUR, K. M., Studies on nuclei. II. Effects of X- rays on deoxyribonucleoprotein from rat thymus 481
GELFANT, S., A study of mitosis in mouse ear epidermis *in vitro*. II. Effects of oxygen tension and glucose concentration 494
WOLFSON, N., Retardation of cleavage in sea urchin eggs by cell extracts . . 504
UVNÄS, B. and THON, I.-L., Isolation of "biologically intact" mast cells. . . 512

CHATTERJEE, K. R., DAS GUPTA, N. N. and DE, M. L., Electron microscopic observations on the morphology of *Mycobacterium leprae* 521
GOLDÉ, A., Étude quantitative des modifications cellulaires provoquées par le virus du sarcome de Rous dans les cultures de cellules embryonnaires de poulet 528
RENDI, R. and HULTIN, T., *In vitro* incorporation of ^{14}C-amino acids into partially purified ribonucleoprotein particles 542
BERNELLI-ZAZZERA, A., BASSI, M. and CASSI, E., The metabolism of isolated cerebral cortex from hypoxic rats 554
BASS, R. and SALTMAN, P., The accumulation of iron by rat liver cell suspensions 560

BRIEF NOTES

DOURMASHKIN, R. R. and NEGRONI, G., Identification with the electron microscope of particles associated with polyoma virus in induced parotid gland tumours of C3H mice 573
CHRISTENSEN, A. K. and CHAPMAN, G. B., Cup-shaped mitochondria in interstitial cells of the albino rat testis 576
KLINGENBERG, H. G. and LIPP, W., Exciting effect of some basic dyes on smooth muscle 580
HARDING, C. V., DONN, A. and SRINIVASAN, B. D., Incorporation of thymidine by injured lens epithelium 582
IMMERS, J., Autoradiographic studies on incorporation of ^{14}C-labeled algal protein hydrolysate in the early sea urchin development 585
SZYBALSKI, W., Genetics of human cell lines. II. Method for determination of mutation rates to drug resistance 588
WHITFIELD, J. F., RIXON, R. H. and RHYNAS, P. O. W., Cytological consequences of chromosome bridges in X-irradiated L strain mouse cells . . 591
KORNER, A., Influence of the pituitary gland on the incorporation of amino acids into liver mitochondrial protein *in vitro* 594
MATHEWS, J., MAIDA, F. T. and BUTHALA, D. A., A simple apparatus for the freezing of mammalian cells 596
SIRLIN, J. L., The differentiation of amphibian blastopore nuclei as judged by the behaviour of their RNA and protein 598